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INTERNATIONAL COOPERATION IN THE PEACEFUL USES OF OUTER SPACE: ACTIVITIES OF MEMBER STATES

Note by the Secretariat

Addendum

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INTRODUCTION

1. Document A/AC.105/567 contains information received from Member States as of 15 December 1993 on the following topics, pursuant to a recommendation made by the Committee on the Peaceful Uses of Outer Space at its thirty-sixth session:[1]

(a) Those space activities that were or could be the subject of greater international cooperation, with particular emphasis on the needs of the developing countries;

(b) Spin-off benefits of space activities.

2. The present document contains information on those topics that was received from Member States between 15 December 1993 and 7 February 1994.

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[1]Official Records of the General Assembly, Forty-eighth Session, Supplement No. 20 (A/48/20), para. 122.

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REPLIES RECEIVED FROM MEMBER STATES*

HUNGARY

[Original: English]

INTRODUCTION

As was reported at the last sessions of the Committee on the Peaceful Uses of Outer Space and the Scientific and Technical Subcommittee, great changes have taken place in Hungary. The Intercosmos era has ended and a new space organization has been established with a new conception and a new programme.

We concentrate our efforts and scientific forces in five main areas of research: Space-Earth System, Space Physics, Space Life Sciences, Satellite Techniques and Technologies and Space Technology.

Top priority has been given to the most important field of research application in our country, the Space-Earth System, within which are also Remote Sensing, Meteorology, Earth Observation, etc.

In the formulation of the new concept of space activities in Hungary, the most important decision was that Hungary, as one of the smallest countries of the world, will carry out all its space activities in the framework of international cooperation.

INTERNATIONAL COOPERATION

With the end of the Intercosmos era, the Hungarian Space Board (HSB) decided that the main directions of our international cooperation for the coming years would be:

- Western-European (European Space Agency) - Hungarian;
- Central-European (Central European Initiative) - Hungarian;
- Eastern-European (Russian Space Agency) - Hungarian;
- Overseas (National Aeronautics and Space Administration) - Hungarian cooperation;
- Bilateral cooperation with small, medium and large countries.

Western-European - Hungarian cooperation

The General Agreement between ESA and Hungary was signed in 1991.

In 1993 ESA supported the development of Hungarian remote sensing culture by providing a computerized workstation. It is used by the Hungarian Remote Sensing Center. The hardware and software, compatible to European standards, makes it possible to elaborate the high resolution radar images of the first European Remote Sensing Satellite (ERS-1). The workstation was inaugurated in Budapest on 5 October 1993 by ESA Director General, Mr. Jean-Marie Luton and Prof. Dr. Ernö Pungor, supervising minister of Hungarian space activities.

In September 1992, the European Association of Remote Sensing Laboratories (EARSeL) held its successful 12th Symposium, its General Assembly and two Workshops in Hungary (Eger). This event was also an acknowledgement of the results achieved in remote sensing in Hungary in previous years.

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*The replies are reproduced in the form in which they were received.

In January 1993 an ESA delegation, headed by Mr. Jean Arets, Head of International Affairs, visited Budapest. They met the representatives of the Hungarian institutes involved in space activities, who proposed several themes of possible cooperation in the future. At the end of 1993 some of the proposals were accepted.

The main projects are:

- ERS-1 data processing, (FÖMI; Hungarian Remote Sensing Centre);
- Co-investigator status in CLUSTER projects, (Research Institute for Particle and Nuclear Physics);
- Several proposals under investigation in the area of Space Life Sciences.

Central-European - Hungarian cooperation

In January 1992 the first meeting of experts in space science and space technology representing countries of the Central European Initiative (CEI, then Hexagonale) was held in Budapest. Seven countries (Austria, Czechoslovakia, Croatia, Hungary, Italy, Poland, Slovenia) and ESA were represented.

The main aim of these talks was to clarify the possibilities of future regional international cooperation in this area.

At the end of 1992 the CEI Scientific and Technological Committee held its meeting in Prague, where the scientific, technical and technological problems of the Central European Satellite for Advanced Research (CESAR), CARINA and remote sensing mission were discussed. Finally the CESAR small scientific satellite was accepted as the first step in the cooperative programme.

Development work on CESAR began in early 1993 and will be finished in the first part of 1994. The Hungarian Space Office was represented at all the working meetings which were held in different participating CEI countries. One of the workshops (in September) was organized in Budapest. The CESAR will be a small satellite for primarily geophysical investigations. Its launch is planned for 1997.

Hungary is taking part in the CESAR programme through the development of four scientific instruments. These are:

- High-resolution Ionospheric Mass Spectrometer (HIMS), Atomic Energy Research Institute of KFKI;
- Medium Energy Ion Spectrometer (METEIS), Research Institute for Particle and Nuclear Physics;
- Signal Analyzer and Sampler (SAS-2), Department of Geophysics of Eötvös University;
- MONITOR as a part of the Polish Plasma Wave Package, Department of Microwave Telecommunication of the Technical University of Budapest.

Hungary is also interested in manufacturing some elements of the Service Module.

Eastern-European - Hungarian cooperation

In April 1992 and in June 1993 Hungary held talks in Moscow with the leaders of Russian Space Agency about how the successful cooperation of the previous decades in the Intercosmos programme could be continued.

A general agreement on cooperation between Russia and Hungary in space activities has been prepared and it will hopefully be signed in the near future.

Hungarian officials also visited some institutes and discussed the continuation of more than 20 years of institutional cooperation.

In August 1993 a delegation from the Institute of Medical and Biological Problems (Moscow) visited Hungary and with the Aeromedical Research Institute of Hungary decided on possible areas for future cooperation.

An agreement was also reached between the same Russian institute and the Atomic Energy Research Institute of Hungary.

In October 1993 the Research Institute for Particle and Nuclear Physics in Hungary signed a working programme with the Russian Space Research Institute (IKI).

Hungarian institutes are taking part in some important Russian programmes:

- the Research Institute for Particle and Nuclear Physics is involved in three plasmaphysical experiments of the Russian Mars probes Mars-94 and Mars-96;
- the Department of Telecommunications of the Technical University of Budapest is participating in the Interball project;
- the Aeromedical Research Institute of the Hungarian Home Defense Forces is cooperating in several space life sciences projects with the Institute of Medical and Biological Problems in Moscow; etc.

Overseas - Hungarian cooperation

In October 1992 a NASA delegation, headed by Dr. Wesley T. Huntress, Jr. director of the Solar System Exploration Division of NASA visited Hungary.

At this meeting the NASA delegation met the representatives of Hungarian institutions involved in space activities, who proposed several themes for possible cooperation. As of the end of 1993, three of the proposals have been accepted:

- co-investigator status in the Cassini project Cassini, (Research Institute for Particle and Nuclear Physics);
- the Universal Multizone Crystallizator, (Department of Metallurgy of the Miskolc University). The crystallizator will be tested at NASA Marshall Space Flight Center in order to decide, whether it can be used in a future Shuttle Mission;
- NASA loaned some lunar samples for scientific investigations and educational purposes (Eötvös University in Budapest);
- the European subnode of the Small Bodies Node of the NASA Planetary data System was inaugurated at the Konkoly Observatory of the Hungarian Academy of Sciences.

About bilateral cooperation

In 1993 the Hungarian Space Office began talks with the representatives of middle European countries and with the Space Agencies of Ukraine, India, and other countries. We hope some results could be achieved through cooperation with these countries in the near future.

The Space Agency Forum

In April 1993 the Space Agency Forum (SAF) was established and Hungary became a full member of this highest level forum of international cooperation in space activities.

THE FINANCIAL SUPPORT OF SPACE RESEARCH - THE STATE TENDER SYSTEM IN HUNGARY

The space activities of Hungarian institutes are financed partly by the institutions themselves (mainly through the Academy of Sciences, universities, etc.) and partly by the Space Organization.

Financing by the Space Organization has two forms:

- function-oriented financial support through applications to the Scientific Council on Space Research (SCSR);
- project-oriented support through applications to the State Tender Committee.

The tendency is to orient the institutes towards being financed by project-oriented support through the state tender system. This change needs a long process of development.

The regular support was decided by the SCSR.

In the case of the state tender system the SCSR works as a scientific advisory committee, it investigates tenders and gives a suggestion to the State Tender Committees, which are presided over by the supervising minister.

In the table below one can see the distribution of the total support (in per cent) among the main research areas. The table includes all forms of financial support through the Space Organization.

	Plan	Fact in 1992-93
Space-Earth System	40%	47%
Space Physics	20%	19%
other three main directions	40%	34%

Comparing the plan and the fact of the total financial support of all forms to the five main research areas, we can state that globally the plan was fulfilled in the last two years, but Space-Earth System was given slightly higher financial support than was originally planned, further strengthening the leading position of this field in the priorities of space research in Hungary.